

CRESPAR

Research & Development Report

Putting Data in the Driver's Seat: Web Site Eases Way for Educators

THE RIDE JUST GOT A LITTLE EASIER for educators who are data-driven—or would like to be.

A consumer-focused web site, recently introduced as part of CRESPAR's Systemic Supports program at Hopkins, will help direct teachers to student data, and save them some dead-end searches. The web site, www.csos.jhu.edu/systemics/datause.htm, grew out of a research project on educational technology availability by CRESPAR researchers Jeff Wayman and Sam Stringfield with Mary Yakimowski of the Baltimore City Public School System. Their intention is to present up-to-date software reviews, sample screen shots and other pertinent information, making their research easily accessible by teachers and administrators who are working toward data-driven decisions in their schools and classrooms.

"This is as much as we can find of software that delivers existing student data into the hands of teachers," says Wayman, who led the effort. "It's a nice store of information."

THE WEB SITE includes reviews of 13 commercially available software products that help school districts gather data, warehouse them, and ease educators' access. Each review gives an overview of the product, describes how schools work with the company to compile and manage data, and details the kinds of reports available and the query tools that educators can use for individual searches and reports—to look at a student's permanent record, for instance, or at the performance of a specific group of students.

The data—test scores, demographic information, attendance figures, and more—are already available, but not in one place, Wayman says, making it difficult for teachers to access and use—to know their students better, and ultimately make teaching and learning more effective.

Wayman sees the web site as a consumer shortcut that can be updated every few months, as new products become available and others change. "A principal interested in data access might run across this site and realize somebody did the work for them," he says.

THE MOVEMENT toward more data-driven classroom practices and curricula gained tremendous momentum from the accountability and testing requirements of the No Child Left Behind Act. "Everybody's telling teachers to be data-driven, but they don't necessarily have the tools or the time to do that," Wayman says.

Because research on this technology is scarce, the CRESPAR researchers are at the forefront of this knowledge. Stringfield and Wayman were invited to a recent expert forum on the National Education Technology Plan, which is being revised by the Department of Education. The three authors first presented their work on teacher-friendly options for data analysis at a Harvard University Graduate School of Education conference last spring. A technical report on the full research project is forthcoming from CRESPAR.

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“This project really cuts to two basic tenets of our job as researchers—to get information to the schools, and to get information out to the research and political communities to help them be better,” says Wayman.

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Involving families in homework pays off

HOMEWORK is an everyday part of school life. Studies show that middle and high school students who spend more time on homework and complete their assignments tend to earn higher grades. Despite this, all parties involved express concerns. Students complain that they have too much homework. Parents report that they want to help their children with homework, but feel unprepared to do so and need more guidance. Teachers say that many students don't complete homework assignments.

Working with CRESPAR researchers, science teachers at Pikesville Middle School in Baltimore County, Maryland, developed weekly science TIPS (Teachers Involve Parents in Schoolwork) assignments to address these concerns. TIPS differs from traditional homework because assignments require students to conduct interviews and experiments and have conversations with a family member.

In a study published in the *Journal of Educational Research*, Dr. Frances Van Voorhis reported on a quasi-experimental study of the effects of interactive homework, conducted for CRESPAR's Program of School, Family, and Community Partnerships. Six classes received weekly TIPS activities with specific guidelines for students to interact with family partners; four classes received the same weekly homework, but without guidelines for family involvement.

Eighty percent of the TIPS students reported that families were sometimes, frequently, or always involved in science homework, while about 80% of the comparison group reported that families were never, rarely, or sometimes involved. Students in both groups who more regularly involved family partners completed more assignments. TIPS students also earned higher science report card grades, even after taking into account students' prior science abilities,

family background, and the amount of homework completed.

These findings support the hypothesis that TIPS positively affects family involvement in homework, science attitudes, and student achievement in the middle grades. For example, more than 85% of TIPS students and families surveyed reported that TIPS homework helped parents see what students were learning in science, and that students were able to talk about their work with a family member. "They are a great way for us to work together and stay informed about what is going on in science class," said one family member. Q

For information on the TIPS study, contact Dr. Frances Van Voorhis at franvan@bellsouth.net.

For information on TIPS materials, visit www.partnershipschoools.org or contact, at CRESPAR, Dr. Joyce L. Epstein (jepstein@csos.jhu.edu)

Research base grows with popularity of two-way immersion

TWO-WAY IMMERSION is an instructional approach that brings together native English speakers and native speakers of another language, usually Spanish, for instruction in both languages. Although this approach began about 40 years ago, it has grown significantly in the last decade or so, with 266 programs documented in 2002. With this increased use has come greater interest in its implementation, student outcomes, instructional strategies, and the experiences of students, parents, and teachers. Not surprisingly, the research base has expanded as well.

In “Trends in Two-Way Immersion Education: A Review of the Research” (Report 63), Elizabeth R. Howard, Julie Sugarman, and Donna Christian summarize that research, synthesize the findings, and point out areas in need of future research. The report also includes

profiles of successful programs. The review concludes that “much is going well in two-way immersion education:”

- # Teachers are reasonably well-prepared in education, experience, and credentials;
- # Parents and students are positive about two-way immersion and students have positive attitudes about bilingualism and multiculturalism;
- # Successful programs, such as those profiled in this review, show that the approach is feasible and provide models for those interested in starting such programs;
- # Academic outcomes are “generally favorable” in that native speakers of both languages in a two-way immersion program tend to do as well or better on standardized achievement

tests than their peers in other settings.

One issue of concern to the report’s authors is that of equitable treatment and opportunities for native speakers of the minority language, as well as for native English speakers. Many forces work against the ideal of equal status for two languages and two language groups. Among those forces, the authors cite: shortage of bilingual teachers and staff, limited teaching materials for minority languages, mandatory standardized testing in English in the primary grades, and the “current political initiatives such as English-only and anti-bilingual education legislation.”

These equity issues are among those the authors see as deserving of future research. G

Are teachers teaching to national standards?

THE FOCUS of this methodological research is how teachers teach, and the extent to which they are embracing the recommendations of a national standards reform movement. In “From National Movement to Local Action: The Status of Standards-Based Science Instruction in Middle School Classrooms” (Report 64), CRESPAR researchers Christopher Swanson, Stephen Plank, and Gina Hewes used sophisticated measurement techniques to see whether a nationally representative sample of eighth-grade science teachers used strategies that align with this movement.

Using data from the 1996 National Assessment of Educational Progress (NAEP), the researchers explored the possibility of measuring a specific instructional strategy using statistical methods based on item-response theory (IRT).

They seek to measure teachers’

instructional practices with the same rigorous statistical techniques applied to most large-scale assessments of student achievement. These practices represent a shift to a more active classroom, where students participate in learning through projects and experiments rather than listening to lectures and doing seatwork.

The study takes advantage of the naturally existing variation in the classroom practices of a national sample of teachers and IRT measurement models to address some important questions:

- # *Is there evidence that a coherent style of instruction akin to the standards-based model exists in middle school classrooms? If so, which practices appear to be part of, and which are inconsistent with, this approach?*
- # *Is there evidence of these practices being incorporated into classroom instruction*

systematically or in a predictable order?

- # *How prevalent is the standards-based approach to science in this sample?*

The study shows that most teachers fall along a single dimension defined by a coherent set of practices that are closely aligned with the aims of the standards movement. Further, the report goes into detail about which practices appear to be most readily embraced and which appear to be more difficult (or, perhaps, should be thought of as coming later in a process of instructional change).

“We believe that the kind of solid measurement strategy being explored in this study represents an essential foundation and necessary precursor to subsequent studies of a more substantive and policy relevant nature,” the authors write.

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School districts play significant role in reform

CRITICIZING SCHOOL DISTRICT bureaucracies has become a growth industry. Horror stories of mismanagement and waste abound, and less is often touted as more in these organizations. In the face of this anti-district rhetoric, it is important to recognize the growing number of scholars who are emphasizing the importance of the district in school reform, and the research base that examines the role of the central office.

“Bringing the District Back In: The Role of the Central Office in Improving Instruction and Student Achievement” (Report 65) builds on two previous CRESPAR reports on the roles of school boards and superintendents, and focuses on the dynamics of relations between the central office and its schools. Among the questions the report addresses are:

What contribution does the central office make to its schools to help them improve

classroom instruction and student achievement?

How does recent research illuminate the connections between central office activity and student learning?

Focusing on research since 1978, authors Martha A. Mac Iver and Elizabeth Farley look first at central-office studies chronologically, and then by type—case studies and comparative district studies, for instance. They also analyze how the functions of the central office affect instruction and achievement.

The findings show that the central office is neither irrelevant nor a detriment to school performance, nor is the adage that less bureaucracy means more achievement borne out. The literature does, indeed, reveal examples of ineffective central offices, but it also shows:

Despite individual success stories,

most schools, especially those in high-poverty areas, cannot improve instruction and achievement without outside help—the district office being the most logical and available, though external partners can fill this role.

Central offices do help schools build capacity for improving instruction and achievement, especially in advising them on good curriculum and teaching practices, recruiting principals and teachers, analyzing data, and providing administrative support so that good instruction can occur.

The authors conclude with a model of how the central office influences instruction and student achievement, as well as suggestions for further research related to that model. G

Howard researchers study math alignment issues

RESearchers in the Classroom Assessment Project (CAP) at CRESPAR/Howard are looking at three different forms of curriculum to gauge how classroom practices align with state and federal standards.

Curriculum alignment, the relationship between what is taught and what is specified and tested (English & Steffy, 2001), is based on “the doctrine of no surprises,” that is, children are not surprised by any form of assessment because it is an integral part of the instructional program. It makes sense then, that the greater the similarity among the local curriculum, the assessments (traditional and performance-based), and actual classroom instruction, the greater the likelihood of higher student achievement.

Alignment is once again at center stage. The No Child Left Behind legislation, which includes systematic and periodic assessments based on clearly specified standards, promotes the need for such alignment.

In fourth-grade mathematics classes, the CAP researchers focused on alignment of three types of curricula that are essential to effective education: the intended curriculum (a district’s specified guides or frameworks), the taught curriculum (classroom instruction), and the assessed curriculum (content of standardized and other achievement measures). The project used mixed methods to examine the alignment of these curricula, and provided direct intervention with teachers through coaching.

The Howard researchers began assessing intended curriculum “on the ground level” during summer curriculum development sessions. They observed the process, and specifics, of developing instructional objectives and related activities, reviewed instructional and assessment materials, and observed professional development in the mathematics curriculum.

To examine the assessed curriculum, CAP mathematics curriculum experts

conducted a content analysis of a sub-test of the district’s standardized mathematics test. Each item on the fourth-grade test was coded on five “alignment” dimensions: content standards, process standards, reading load, cognitive demand, and sub-topics within the content standards that further identified specific concepts, such as percent or decimals within the content standard, “number and operations.”

This “coding” established a basis for determining the alignment among the “intended curriculum,” the “assessed curriculum” and the “taught curriculum.” Such comparisons will make it possible to calculate an “alignment index,” which has promise for predicting student achievement—often called the “learned curriculum.”

To study the taught curriculum, researchers surveyed and interviewed teachers and conducted classroom observations. For example, a sample of teachers from three inner-city elementary schools completed surveys evaluating their intended curricular content, their own mathematics instruction, and their assessment needs. Here are some preliminary findings:

- # About 40% of the 48 mathematics items analyzed for the five alignment dimensions addressed “number and operations.”
- # Problem solving, communications, and reasoning/proof made up almost 80% of the items analyzed.
- # Teachers expressed both need for, and interest in, professional development to help them fine-tune their own classroom assessments. This supports findings of previous CRESPAR research on teacher efficacy (Johnson, Wallace, & Thompson, 1999; Hughes, 1999).

The researchers intend to put their findings into practice by requiring more training in assessments for Howard’s education students, and by developing a practical manual on classroom assessment.

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First Spencer Fellows move on

DEBORAH LAND, KARLA LEWIS, AND CHRISTOPHER SWANSON, the first Spencer Postdoctoral Fellows, who came to CSOS and JHU's sociology department in fall 2001, have now moved on to exciting new positions.

Land is an assistant professor at the University of Pittsburgh in the Psychology in Education department within the education school. She is teaching two sections of Psychology of Learning and Development to graduate students. Her research continues to focus on peer relationships, particularly peer victimization in adolescence.

Lewis is a research specialist with SERVE, an organization that promotes and supports the continuous improvement of educational opportunities for all learners in the southeastern United States. She is working on assessment, accountability, and standards, and is based at SERVE's main office in Greensboro, NC.

Swanson became a research associate at the Urban Institute's Education Policy Center in Washington in 2002. He is leading a four-year national evaluation of State-Flex and Local-Flex demonstration programs authorized by the No Child Left Behind Act. He is also co-principal investigator on a five-year evaluation of a high school reform initiative in the Baltimore City Public Schools System.

The second group of Spencer Fellows is completing its second year at Hopkins. No new fellows were added in 2003-04 because of reduced foundation support. G

Baltimore to open innovation high school based on TDHS

TALENT DEVELOPMENT HIGH SCHOOLS (TDHS) will open an innovation high school—a neighborhood public school embracing new visions of what makes an urban high school successful—in Baltimore in September 2004.

The school will stress intense academics, a personalized atmosphere, community involvement, an arts and expression program, and upper-grade career academies in science and technology and arts and communications.

The Talent Development High School model has already been put in place in more than 50 existing schools in 10 states and the District of Columbia. “But this is the first time we will be building a high school from scratch,” CSOS researcher Robert Balfanz said.

Sharing space in a building that currently houses a middle school, the Baltimore TDHS will offer a full aca-

demic program, featuring “double doses”—two courses per year—of literacy and mathematics instruction for students who need to catch up. It also will offer early college and advanced placement courses for eligible students.

The school will enroll 180 ninth-graders in the 2004-05 school year, adding a new class of freshmen each year until the school has about 600 students in grades 9-12. The school will be open to students from across the city, though most will be drawn from the neighborhood surrounding the school.

Talent Development schools quash students’ feelings of anonymity with programs like the ninth-grade Freshman Seminar, which aims to prepare students for the demands of high school by focusing on study skills, time management, test taking, goal setting, and peer relationships.

The innovation high school program is funded by the city and the Fund for Educational Excellence, a 20-year-old partnership of businesses, parents, educators, and community members dedicated to improving educational opportunities and the academic performance of students in the Baltimore City Public School System. CSOS was chosen after several rounds of review by the city’s High School Steering Committee.

While the Baltimore Talent Development High School will present a great opportunity for city students, it also will offer CSOS researchers and curriculum writers a chance to see their work in action, allowing them to see what works for students and teachers and what needs further study, Balfanz said. “We want other schools to see that this is a real school in a real city environment and that it’s a model that can work anywhere.”

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- # **Talent Development High Schools** will present its Fourth Biennial National Conference on Implementation July 22-23, 2004 at the Sheraton Inner Harbor Hotel in Baltimore. The conference marks a decade of data-driven reform. Planned conference topics are organized into three strands, or categories—Organizational Reforms, Teaching and Learning, and Research-Driven Reforms. A National Principals' Pre-conference Institute will be held on July 21. Principals are encouraged to stay for the National Conference. For information and registration materials, contact Leo Jones at 410-516-2882 or sljones@csos.jhu.edu.
- # Former CRESPAR researchers **Deborah Land** and **Janet Thomas** were cited as sources on "effective school leadership" for their technical reports focusing on school boards and superintendents, respectively, in a special report of the Education Writers' Association, "Effective Superintendent, Effective Boards, Find the Right Fit."
- # Spencer Fellow **Pam Bennett** and co-author Reynolds Farley of the University of Michigan presented a paper at The Color Lines Conference at Harvard University in late summer. "Residential Segregation in the Multiracial United States" analyzes trends in residential segregation of Whites, Blacks, Latinos, and Asians from 1980 to 2000.
- # Researchers **Jeffrey Wayman** and **Sam Stringfield** of CRESPAR's Systemic Supports program presented "Teacher-Friendly Options to Improve Teaching Through Student Data Analysis" at the annual meeting of the American Association for Teaching and Curriculum in Baltimore in October.
- # **Toks Fashola** spoke about her CRESPAR research on the evaluation of after-school programs at a presentation to the National Research Council in Washington, D.C., sponsored by the Committee on Research in Education.
- # To bring research into practice, CRESPAR's program on **School, Family, and Community Partnerships**, directed by **Joyce Epstein**, invites schools, districts, and states to participate in the National Network of Partnership Schools. The network will conduct its spring Leadership Development Conference on family and community involvement, March 12-13, in Baltimore. Conference sessions guide educators and parents to work as a team to plan, implement, evaluate, and sustain goal-linked partnership programs that support student success in school. Information and registration materials are available on request from nnps@csos.jhu.edu and on the NNPS website, www.partnershipschools.org. G

AROUND THE JOURNALS

- # Spencer Fellow Pam Bennett had her first journal article published recently in the August 2003 edition of **American Sociological Review**. In "Revisiting Racial Differences in College Attendance: The Role of Historically Black Colleges and Universities," written with her mentor, Yu Xie of the University of Michigan, Bennett drew on her dissertation to explore the often-reported finding that Blacks are more likely to attend college than Whites of similar socioeconomic backgrounds and academic performance levels, and answer the question of the role of historically Black colleges and universities in these circumstances.
 - # Researchers from CRESPAR's Systemic Supports program at Hopkins took over the Summer 2003 edition of **Review of Educational Research** with two articles: "Comprehensive School Reform and Achievement: A Meta-Analysis" by Geoffrey D. Borman, Gina M. Hewes, Laura T. Overman, and Shelly Brown, and "Secondary Career and Technical Education and Comprehensive School Reform: Implications for Research and Practice" by Marisa Castellano, Sam Stringfield, and James R. Stone III.
 - # Toks Fashola guest edited two editions of **Urban Education** (July and September 2003) focusing on the education of African American males. Robert Jagers of CRESPAR/ Howard and Robert Cooper at UCLA, formerly of Hopkins, worked with Fashola on the July issue. The three also authored articles in that issue.
 - # The story of a low-performing middle school in Philadelphia that improved enough to be taken off a failing schools list is the subject of "Removed from the List: A Comparative Longitudinal Case Study of a Reconstitution-Eligible School" by Douglas Mac Iver, Allen Ruby, Robert Balfanz, and Vaughan Byrnes in the Spring 2003 **Journal of Curriculum and Supervision**.
 - # Steve Sheldon's recent report on school partnership programs and student achievement was published in **The Urban Review** of June 2003. His paper is entitled, "Linking School-Family-Community Partnerships in Urban Elementary Schools to Student Achievement on State Tests." G
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